

**Pearson BTEC Level 3 Nationals Extended Certificate,
Foundation Diploma, Diploma, Extended Diploma**

Please check the examination details below before entering your candidate information

Candidate surname

Other names

Centre Number

Learner Registration Number

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Time 2 hours

**Paper
reference**

31760H

Information Technology

UNIT 1: Information Technology Systems

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and learner registration number.
- Answer **all** questions.
- Answer the questions in the spaces provided
– *there may be more space than you need.*

Information

- The total mark for this paper is 90.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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Answer ALL questions. Write your answers in the spaces provided.

- 1** David is a wedding photographer who takes and edits photographs.

He uses several portable devices including a digital camera, tablet, mobile phone and laptop.

David uses cloud storage for his photographs so that he can access his photographs anywhere with an internet connection.

- (a) Identify **two other** reasons why David uses cloud storage for his photographs.

(2)

1

2

David is concerned that he will not be able to access his photographs if there is no internet connection.

- (b) Identify **two other** concerns David may have about using cloud storage.

(2)

1

2

- (c) David has received the following text message that he believes is an attempt at SMS phishing.

OE2T: We were unable to process your latest bil. In order to avoid fees, update your biling information immediately via:

<HTTPS://OE2T-update.ref0170.com/?OE2=2>

- (i) Identify **two** reasons that may have led David to believe that this is a phishing text.

(2)

1

2

- (ii) Identify **two** ways that David can protect himself against phishing texts.

(2)

1

2

(d) David wants to set up a blog to share his portfolio of wedding photographs.

- (i) Describe the process David needs to follow for setting up the blog to share his portfolio of wedding photographs.

(4)

(ii) Explain **two** benefits to David of using a blog to show the wedding photographs. (4)

1

2

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Using a blog is one way David can communicate and interact with online communities.

- (e) Discuss the features of other relevant platforms he could use to upload and show his wedding photographs.

(8)

(Total for Question 1 = 24 marks)

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QUESTION 2 BEGINS ON THE NEXT PAGE.

- 2 Jamal is the manager of a sports centre, which currently offers training facilities for a variety of sports.

Jamal wants to ensure that the centre is meeting the needs of the local community.

He has decided to gather the opinions of the local community by collecting data from individuals.

- (a) Explain **two** benefits of using primary data to gather the opinions of the local community.

(4)

1

2

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(b) Jamal has decided to collect some of the data using a questionnaire.
Figure 1 shows part of the questionnaire.

We would like to know a little bit about you.

1. Do you currently use the sports centre?

- ☐ Yes
- ☐ No

2. If the answer to question 1 was **Yes**, please tell us the sports you take part in.

- ☐ Football
- ☐ Tennis
- ☐ Squash
- ☐ Badminton
- ☐ Netball

3. If the answer to question 1 was **No**, please tell us what would encourage you to use the sport centre.

.....

.....

.....

.....

Figure 1

The questionnaire includes multiple-choice and open response questions.

(i) Give **two** reasons for using multiple-choice questions in a questionnaire.

(2)

1

2

(ii) Describe how open question responses are extracted to present findings.

(2)

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(c) Jamal has decided to use online questionnaires rather than hard copies.

Explain **two** benefits to Jamal of gathering data using online questionnaires rather than hard copy questionnaires.

(4)

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1

2

(d) Jamal uses questionnaires to collect data from the community.

Explain **one other** method that Jamal could use to collect data from the community.

(2)

(e) Jamal needs to post his questionnaire online.

Discuss the factors, other than question types, that Jamal should consider when producing the user interface for his questionnaire.

(8)

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(Total for Question 2 = 22 marks)

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QUESTION 3 BEGINS ON THE NEXT PAGE.

3 GFC designs and sells computing hardware and software via high street stores.

The company holds stock in each store with additional stock held in a central warehouse.

In-store stock levels are recorded on a database on the in-store server.

Warehouse stock levels are recorded on a database on the company server.

A sales terminal is connected to the in-store local area network (LAN).

The in-store LAN uses the company virtual private network (VPN) to access the company server.

When an item is requested the in-store stock levels are checked.

If the item is not available in-store, stock is checked on the warehouse database.

The status of the stock is sent back to the sales terminal.

(a) Draw a diagram to show the integration of systems used in this process.

The diagram should include:

- devices, systems and connections that could be used
- the flow of data through the system
- annotations indicating data, devices, systems and connections.

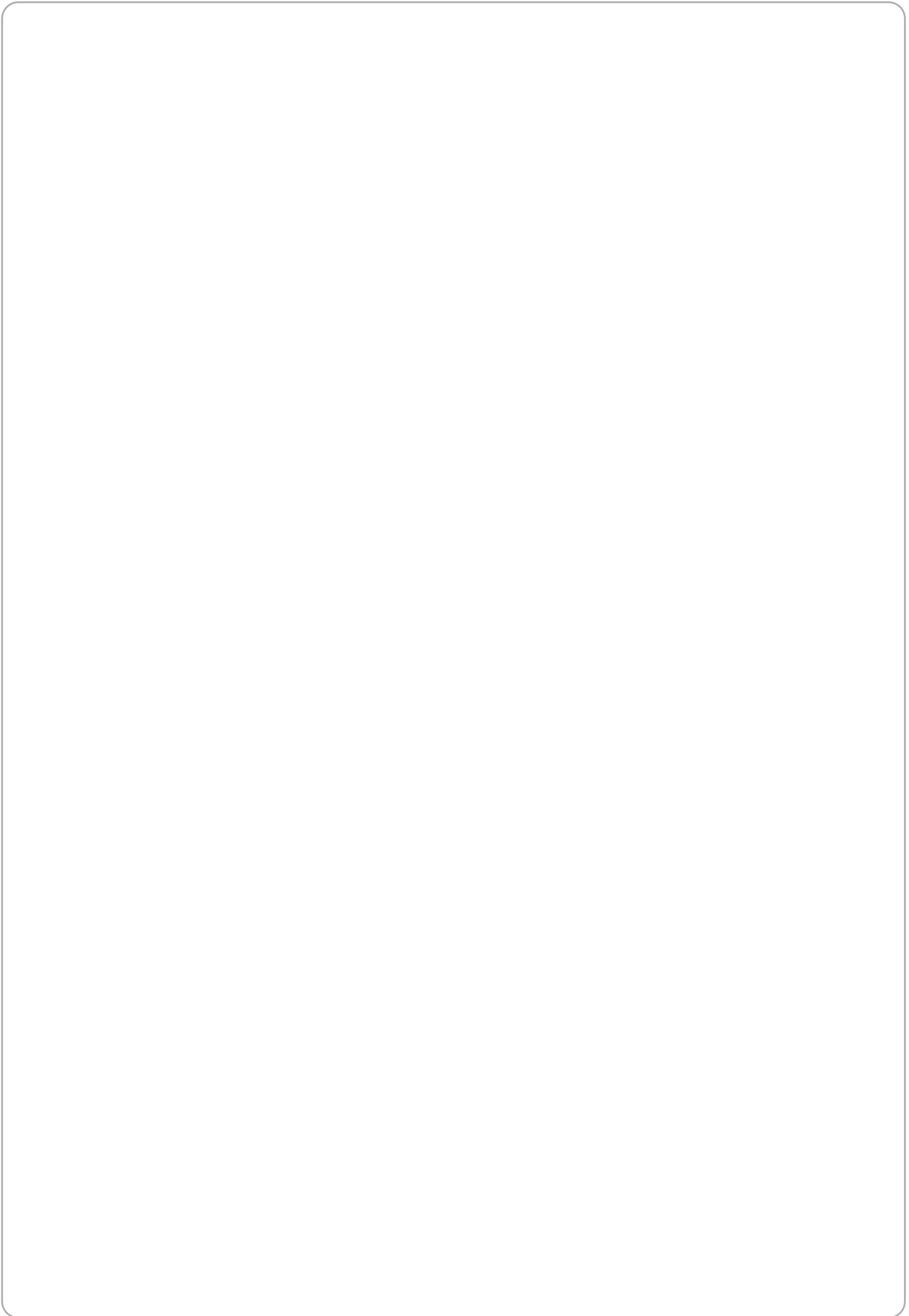
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Use this space to draw your diagram for Q3a.

(6)



(b) GFC employs support staff who work remotely.

The support staff use the company VPN to access the company server.

Describe how the VPN works to enable the support staff to send files to the company server.

(4)

- (c) Staff who work remotely must take steps to ensure the security of company data on their devices.

One precaution is to install a firewall on the device.

Describe how a firewall ensures the security of data on a device.

(4)

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- (d) GFC keeps up to date with emerging technologies and wants to introduce robots in its warehouse.

Discuss the implications for GFC of using robots in the warehouse.

(8)

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(Total for Question 3 = 22 marks)

- 4 LN-Educ is a UK charitable organisation providing teaching resources for schools. It wants to offer new online resources that include courses and teaching materials.

LN-Educ's website will provide access for students to use and interact with the new online resources.

The organisation is aware that security of data is important, but there are other implications to consider.

- (a) Discuss the impact and implications, other than security, that the organisation should consider so students can access and use the new online resources.

(10)

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- (b) LN-Educ does not charge for the courses and is keen to attract students from overseas.

However, the organisation is aware that not all overseas students will be able to take advantage of the courses.

Analyse the moral and ethical factors that may restrict access to the courses, and the implications of this for overseas students.

You should consider:

- globalisation
- freedom of speech and censorship
- unequal access to information technology.

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(Total for Question 4 = 22 marks)

TOTAL FOR PAPER = 90 MARKS

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